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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

_____

Ex parte RICHARD IAN KNOX and DAVID WILLIAM MORTON

_____

Appeal 2009-012769
Application 10/662,009
Technology Center 2100

_____

Before ROBERT E. NAPPI, DENISE M. POTHIER,
and BRUCE R. WINSOR, *Administrative Patent Judges*.

WINSOR, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from a Final Rejection of
claims 1-11, which constitute all the claims pending in this application. We
have jurisdiction under 35 U.S.C. § 6(b). We reverse and institute new
grounds of rejection within the provisions of 37 C.F.R. § 41.50(b).

STATEMENT OF THE CASE

"[Appellants'] invention relates to the identification of updates to
XML (eXtensible Markup Language) data and in particular to the
identification of such updates in real time by a client." (Spec. 1:4-7). Claim
1, which is illustrative of the invention, reads as follows (bracketed Roman
numerals added for ease of reference to clauses):

> 1. A method of identifying an update between a first
> version of a data file and a second version of a data file, [i] the
> data file having a plurality of blocks of data, [ii] the meaning of
> the data file being insensitive to the ordering of the blocks of
> data within the data file, the method comprising the steps of:
>
> [iii] providing each of said plurality of blocks of data
> with a first checksum;
>
> [iv] providing each of said versions of the data file with a
> second checksum of the said version of the data file as a whole,
> [v] said second checksum being insensitive to the ordering of
> the blocks of data within the data file;
>
> [vi] comparing the second checksum of the first version
> of the data file with the second checksum of the second version
> of the data file;
>
> [vii] responsive to said comparison indicating that the
> second checksum of the first version of the data file differs
> from the second checksum of the second version of the data
> file:
>
> [viii] comparing the first checksum of each of said
> plurality of blocks of data of the first version of the data file

with the first checksum of each of said plurality of blocks of data of the second version of the data file; and

[ix] providing an indication of which of said plurality of blocks of data differ between the first version of the data file and the second version of the data file.

The Examiner relies on the following prior art in rejecting the claims:

Squibb	US 5,479,654	Dec. 26, 1995
Kuznetsov	US 2001/0056504 A1	Dec. 27, 2001
Bradshaw	US 2002/0129042 A1	Sept. 12, 2002
Lai	US 6,996,585 B2	Feb. 7, 2006

Claims 1, 3, 6, 8, and 11 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Lai in view of Bradshaw (Ans. 4-8).

Claims 2, 4, 7, and 9 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Lai in view of Bradshaw and Squibb (Ans. 8-9).

Claims 5 and 10 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Lai in view of Bradshaw and Kuznetsov (Ans. 9-11).

Rejection of claims 1-10 as indefinite under 35 U.S.C. § 112, ¶ 2, was withdrawn by the Examiner (Ans. 11).

Rather than repeat the arguments here, we make reference to the Briefs ((Supplemental) App. Br. filed Mar. 23, 2007;[1] Reply Br. filed Sept. 10, 2007) and the Answer (mailed July10, 2007) for the respective positions of Appellants and the Examiner. Only those arguments actually made by Appellants have been considered in this decision. Arguments that Appellants did not make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

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[1] The Appeal Brief filed Jan. 24, 2007, has not been considered as it is deemed to have been superseded and replaced by the Supplemental Appeal Brief filed Mar. 23, 2007.

ISSUE

The pivotal issue presented by Appellants' contentions is whether Lai combined with Bradshaw, as applied by the Examiner, teaches or suggests "[a] second checksum [of the data file's version as a whole] being insensitive to the ordering of the blocks of data within the data file" as recited in clause [v] of claim 1?

ANALYSIS

The Examiner finds that Lai discloses a second checksum of a data file as a whole being insensitive to the ordering blocks of data within the file at col. 2, ll. 60-65, and explains this finding as follows:

> Regarding the ordering of the blocks claimed, [the] examiner interprets that since Lai's disclosure stores data records of the file, such as, filename and path; data can be located even though it is not in a specified order in the directory (Col. 3, lines 45 - 47, Lai). This makes Lai's procedure insensitive to the ordering of the files. Lai provides details regarding the ordering of the blocks of the data within the data file (Fig. 4, Col. 3, lines 23 - 34, Lai). Wherein Fig. 4 clearly shows different blocks of data, such as, "410, 420, .. .430", "415, 425, ... , and 435", and further "block 601, 602, ... , and 603". It is clear that for example "410,420, .. .430" does not follow the same ordering as "601, 602, ... , and 603". This feature of Lai's disclosure show[s] how the second checksum is not based on the ordering of the blocks of data within the data file; thus being insensitive to the ordering as claimed.

(Ans. 5, n.2.) The Examiner further explains that Lai discloses the use of an "exclusive or" (XOR) algorithm, which is insensitive to the order of its input data, for calculating the second checksum (Ans. 14).

Appellants contend, *inter alia*, that the Examiner's assertion that "Lai's procedure insensitive to the ordering of the file" does not establish

that the second checksum of data file's version as a whole is insensitive to the block ordering of data within the file (App. Br. 7). Appellants further contend that the ordering of blocks and checksums illustrated in Lai's Fig. 4 fails to establish that a second checksum of the data file's version as a whole is insensitive to the block ordering of data within the file (App. Br. 8-9). Appellants also argue that Lai applies the XOR algorithm to calculate what the Examiner has found to be the first checksum of the individual blocks of data, and not to the second checksum of data file as a whole (Reply Br. 4-5).

We agree with Appellants and conclude that the Examiner has failed to establish that the combination of Lai and Bradshaw, as applied by the Examiner, teaches or suggests "[a] second checksum [of the data file's version as a whole] being insensitive to the ordering of the blocks of data within the data file" as recited in clause [v] of claim 1. Accordingly, we do not sustain the rejection of claim 1, of claim 6, which was argued together with claim 1 (App. Br. 6), of claims 2-5, which depend from claim 1, or of claims 7-10, which depend from claim 6. In view of the new ground of rejection under 35 U.S.C. § 112, second paragraph, *infra*, we reverse the rejection of claim 11 *pro forma,* as having been based on speculation as to the scope of the claim. *See In re Steele*, 305 F.2d 859, 862 (CCPA 1962).

NEW GROUNDS OF REJECTION WITHIN 37 C.F.R. § 41.50(b)

NEW GROUND OF REJECTION UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

Claim 11 is rejected on a new ground of rejection under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter that Appellants regard as their invention.

Claim 11 recites "[a] computer program comprising computer program code means." We are unable to ascertain the scope of the claim as recited. It is unclear whether the claim includes a means plus function recitation invoking 35 U.S.C. § 112, sixth paragraph. If it does invoke § 112, sixth paragraph, we find no structure in the Specification corresponding to the "means," as required. *See In re Donaldson* 16 F.3d 1189, 1195 (Fed. Cir. 1994); *see also Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1338 (Fed. Cir. 2008). On the other hand, if claim 11 does not invoke § 112, sixth paragraph, the term "means," in the context of the claim, and in the absence of further definition in the Specification, is subject to more than one plausible interpretation and is so vague and indefinite as to render it impossible to ascertain the metes and bounds of the claim. *See Ex Parte Miyazaki*, 89 U.S.P.Q.2d 1207, 1211 (BPAI 2008)(precedential). We note that under the broadest reasonable and possible interpretations of the "means" in claim 11, the claim may be interpreted to encompass non-statutory subject matter, including a signal or software per se. *See In re Nuijten*, 500 F.3d 1346, 1357 (Fed. Cir. 2007); s*ee also In re Warmerdam*, 33 F.3d 1354, 1361-62 (Fed. Cir. 1994). In view of the indefiniteness of the claim, we are unable to determine whether the claim covers statutory subject matter, or if it is patentable over the art of record under 35 U.S.C. §§ 102-103(a).

NEW GROUND OF REJECTION UNDER 35 U.S.C. § 103(A)

Claims 1-10 are rejected on a new ground of rejection under 35 U.S.C. § 103(a) as unpatentable over Lai in view of Bradshaw, as applied *infra*.

Claim 1

We concur with the Examiner that clauses [i] and [ii] in the preamble of claim 1 are merely statements of the purpose or intended use of the claimed invention (Ans. 12-13).

> If . . . the body of the claim fully and intrinsically sets forth the complete invention, including all of its limitations, and the preamble offers no distinct definition of any of the claimed invention's limitations, but rather merely states, for example, the purpose or intended use of the invention, then the preamble is of no significance to claim construction because it cannot be said to constitute or explain a claim limitation.

Pitney Bowes, Inc. v. Hewlett–Packard Co., 182 F.3d 1298, 1305 (Fed. Cir. 1999). In claim 1 the steps of the claimed method are fully set forth and defined in the body of the claim, clauses [iii]-[ix]. We do not find Appellants' arguments to the contrary (Reply Br. 2) to be persuasive, as they do not identify any step of the claimed method that is not fully and intrinsically defined by the body of the claim. Indeed, clauses [i] and [ii] in the preamble merely identify known characteristics of an XML document (*see* Spec. 1:24-2:13), which Appellants have admitted to be prior art (*id.*).

Lai discloses a checksum-based method for file version recording and tracking (Lai Abstract; col. 1, ll. 34-66). Bradshaw discloses a method of identifying changes in data contained in a node by comparing a current checksum of the data contained in a node to a previously calculated checksum read from the node (Bradshaw ¶ [0081]). We find that Lai and Bradshaw are both concerned with using checksums to identify changes in data files and are, therefore, analogous art.

As found by the Examiner (Ans. 4), Lai teaches providing each of plurality of blocks of data with a first checksum (Lai col. 1. 64 – col 2, l. 5),

as recited in clause [iii]. We note that Bradshaw also suggests providing each block ("portion" or "blob") of data of a plurality of blocks of data with a first checksum, as recited in clause [iii] (Bradshaw ¶ [0082]).

As found by the Examiner (Ans. 5), Lai teaches providing each version of the data file with a second checksum of the version of the data file as a whole (Lai col. 2, ll. 60-65), as recited in clause [iv]. We note that Bradshaw (Bradshaw ¶ [0081]) also teaches the subject matter of clause [iv].

As found by the Examiner (Ans. 5), Bradshaw teaches comparing the second checksum of the first version of the data file with the second checksum of the second version of the data file (Bradshaw ¶ [0081]) as recited in clause [vi]. We note that Lai (Lai col. 3, ll. 44-63) also teaches the subject matter of clause [vi].

As found by the Examiner (Ans. 5), Bradshaw teaches, responsive to said comparison, indicating that the second checksum of the first version of the data file differs from the second checksum of the second version of the data file (Bradshaw ¶ [0081]) as recited in clause [vii]. We note that Lai (col. 3, ll. 44-63) also teaches the subject matter of clause [vii].

Bradshaw teaches comparing the first checksum of each of said plurality of blocks of data of the first version of the data file with the first checksum of each of said plurality of blocks of data of the second version of the data file (Bradshaw ¶ [0082]) as recited in clause [viii].

"[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). The test of non-obviousness is not whether one

reference can be bodily inserted into another, but, rather, what the references, when considered together, would have suggested to one of ordinary skill in the art, *In re Keller*, 642 F.2d 413, 425 (CCPA 1981), who is a person of ordinary creativity and not an automaton, *KSR*, 550 U.S. at 421, and whose inferences and creative steps we may consider, *id.* at 418.

We find that a person of ordinary skill in the art would have recognized that Bradshaw's technique of comparing first checksums with second checksums would improve Lai's file version recording and tracking by providing more detailed information about changes in the data in the same way it improves Bradshaw by identifying changes in data contained in a node.

As explained by the Examiner (Ans. 14), Lai teaches a method of calculating a checksum (an XOR algorithm) (Lai Fig. 4; col. 3, ll. 9-16) that is insensitive to the ordering of the data for which the checksum is calculated.

> According to Hargrave's Communications Dictionary, Wiley from Wiley (Copyright 2001 by the Institute of Electrical and Electronics Engineers, Inc) exclusive OR (XOR) Truth Table shows inputs A, and B; which when input A=O and B=1, output =1; and when input A=1 and B=0, output =1; which shows that the output does not change with the order of the input, being insensitive to the ordering,

(Ans. 14, *see also* Spec. 14:25-29.) We find that a person of ordinary skill in the art, using no more than ordinary skill and creativity, would have recognized that the calculation of a checksum to track the versions of a file whose meaning is insensitive to the order of its blocks of data could be performed using a checksum algorithm that is insensitive to the ordering of data (e.g., an algorithm that uses an XOR function), such as that taught by

Lai (Lai Fig. 4; col. 3, ll. 9-16). Appellants argue (Reply Br. 4-5) that Lai
only discloses using the XOR algorithm for calculating the first checksum.
We find, however, that using the XOR algorithm for the second checksum
would merely be a combination of familiar elements according to known
methods yielding no more than predictable results. *See KSR*, 550 U.S. at
416. Therefore, we find that it would have been obvious to the person of
ordinary skill for the second checksum to be insensitive to the ordering of
the blocks of data within the data file, as recited in clause [v].

   We further find that Bradshaw's teaching of comparing the
checksums of the data blocks (Bradshaw ¶ [0082]) and Bradshaw's
(Bradshaw ¶ [0081]) and Lai's (col. 3, ll. 44-63) teaching of indicating when
versions of the second checksum of the data file as a whole differ, would
have suggested to the person of ordinary skill in the art to also indicate when
the first checksums of versions of individual data blocks are different. The
resulting method would be merely a combination of familiar elements
according to known methods yielding no more than predictable results. *See
KSR*, 550 U.S. at 416. Accordingly, we find that it would have been obvious
to the person skilled in the art, using no more than ordinary skill and
creativity, to provide an indication of which of the plurality of data blocks
differ between versions of the data file, as recited in clause [ix].

   Therefore, we find that claim 1 is obvious over Lai in view of
Bradshaw.

<div align="center">*Claims 3, 6, and 8*</div>

   We find that claims 3, 6, and 8 are obvious over Lai in view of
Bradshaw, as applied to claim 1 *supra,* and as applied by the Examiner to
the recitations added by dependent claims 3 and 8 (Ans. 6).

Claims 2, 4, 7, and 9

We find that dependent claims 2, 4, 7, and 9 are obvious over Lai in view of Bradshaw, as applied to claims 1 and 6 *supra,* and further in view of Squibb, as applied by the Examiner (Ans. 8-9).

Appellants argue that "the Examiner has failed to establish a proper motivation to combine [Squibb with Lai and Bradshaw] because the Examiner has failed to establish a nexus between the proposed modification and the asserted benefit associated with that modification" (App. Br. 12). We disagree.

> [T]he problem motivating the patentee may be only one of many addressed by the patent's subject matter. The question is not whether the combination was obvious to the patentee but whether the combination was obvious to a person with ordinary skill in the art. Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.
>
> *KSR,* 550 U.S. at 420.

We have reviewed the Examiner's articulated reasons (Ans. 9) for combining Squibb with Lai and Bradshaw and find them to be reasonable. Appellants do not make any more specific contention or point to any evidence in the record to support their argument. Therefore, we adopt the Examiner's rationale as our own.

Claims 5 and 10

We find that dependent claims 5 and 10 are obvious over Lai in view of Bradshaw, as applied to claims 1 and 6 *supra,* and further in view of Kuznetsov, as applied by the Examiner (Ans. 9-11).

Appellants argue that "the Examiner has failed to establish a proper motivation to combine [Kuznetsov with Lai and Bradshaw] because the Examiner has failed to establish a nexus between the proposed modification and the asserted benefit associated with that modification" (App. Br. 13). We disagree. *See KSR,* 550 U.S. at 420.

We have reviewed the Examiner's articulated reasons (Ans. 11) for combining Kuznetsov with Lai and Bradshaw and find them to be reasonable. Appellants do not make any more specific contention or point to any evidence in the record to support their argument. Therefore, we adopt the Examiner's rationale as our own.

DECISION

The decision of the Examiner to reject claims 1-10 is reversed. The decision of the Examiner to reject claim 11 is reversed *pro forma.* We enter new grounds of rejection for claim 11 under 35 U.S.C. § 112, second paragraph, and for claims 1-10 under 35 U.S.C. § 103(a).[2]

This decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b). Section 41.50(b) provides that "[a] new ground of rejection . . . shall not be considered final for judicial review."

Section 41.50(b) also provides that Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of

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[2] In the event of further prosecution we leave to the instant Examiner to determine the appropriateness of any further rejections of claims 6-10, or similar claims, under 35 U.S.C. § 112, *see,* U.S. Patent & Trademark Office, *Supplementary Examination Guidelines for Determining Compliance With 35 U.S.C. 112 and for Treatment of Related Issues in Patent Applications,* Part 1, § III.C.3, 76 Fed. Reg. 7162, 7168 (Feb. 9, 2011).

the following two options with respect to the new ground of rejection to
avoid termination of the appeal as to the rejected claims:

> (1) *Reopen prosecution.* Submit an appropriate
> amendment of the claims so rejected or new evidence relating
> to the claims so rejected, or both, and have the matter
> reconsidered by the examiner, in which event the proceeding
> will be remanded to the examiner. . . .

> (2) *Request rehearing.* Request that the proceeding be
> reheard under § 41.52 by the Board upon the same record.

37 C.F.R. § 41.50(b).

No time period for taking any subsequent action in connection with
this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R.
§ 1.136(a)(1)(iv) (2010).

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REVERSED
37 C.F.R. § 41.50(b)

</div>

ELD